## APPENDIX E

## Traffic Report

## Mountain View High School Field Lighting Project

## Draft Transportation Impact Analysis

## Prepared for:

David J. Powers \& Associates, Inc.

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Hexagon Transportation Consultants, Inc.<br>Hexagon Office: 4 North Second Street, Suite 400<br>San Jose, CA 95113

Phone: 408.971.6100
Hexagon Job Number: 19KK07

Areawide Circulation Plans Corridor Studies Pavement Delineation Plans Traffic Handling Plans Impact Fees Interchange Analysis Parking Transportation Planning Traffic Calming Traffic Control Plans Traffic Simulation Traffic Impact Analysis Traffic Signal Design Travel Demand Forecasting

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## Executive Summary

This report presents the results of the transportation impact analysis (TIA) conducted for the proposed installation of field lights at Mountain View High School. Mountain View High School (MVHS) is located at 3535 Truman Avenue in Mountain View, California. The project proposes to add lights at the existing track and athletic field at the southwest corner of the campus. Pedestrian access to the field is via the entrance located on Truman Avenue at the northwest corner of the field.

The field lights would allow the school to provide flexible nighttime use of the field for various sporting and school events. MVHS currently hosts football games in the evening with portable, temporary lights and all other sporting events during daylight hours. The number of attendees would increase from 1,000 to 1,500 attendees for the most football games and from 2,000 to 2,200 for rivalry or homecoming games. Attendance for all other sporting events is expected to increase from 200 to 500 attendees by having games at night as opposed to afternoon events. Because the evening football games are expected to have the highest increase in attendees ( 500 attendees), the transportation study is focused on the potential impacts resulting from the evening football games. All other field uses would have lesser impacts.

## Project Trip Estimates

Vehicle trips that would be generated by the evening sporting events at the school were estimated based on data collected for a homecoming football game on a Friday night at Mitty High School in San Jose, California. Based on the vehicle occupancy rate derived from the game, the increase in attendance as a result of the project would cause an increase of 139 new inbound trips and 31 outbound trips during the PM peak hour.

## Intersection Levels of Service

A level of service (LOS) analysis was conducted for 8 study intersections (2 signalized intersections and 6 unsignalized intersections) in the vicinity of MVHS under baseline and baseline plus project conditions. Baseline conditions represent the roadway traffic conditions with the football games currently hold at the school. Baseline plus project conditions represent baseline traffic volumes with the addition of traffic generated by the additional attendees as a result of the project. The results of the level of service analysis show that all of the study intersections would operate at acceptable levels of service during the PM peak hour under baseline plus project conditions for most football games ( 1,500 attendees) and homecoming football games (2,200 attendees) (see Table ES-1).

Page

Table ES-1
Intersection Level of Service Summary

| Intersection | Control | Peak Hour | Baseline with Most Football Games ${ }^{1}$ |  |  |  | Baseline with Homecoming Games ${ }^{2}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | No Project |  | with Project |  | No Project |  | with Project |  |
|  |  |  | Avg. Delay ${ }^{3}$ (sec) | LOS | Avg. Delay ${ }^{3}$ (sec) | LOS | Avg. Delay ${ }^{3}$ (sec) | LOS | Avg. Delay ${ }^{3}$ (sec) | LOS |
| 1 Grant Rd and Bryant Ave | Signal | PM | 19.5 | B- | 21.6 | C+ | 24.4 | C | 25.4 | C |
| 2 Truman Ave and Bryant Ave | AWSC | PM | 8.0 | A | 8.3 | A | 9.5 | A | 10.2 | B |
| 3 School Dwy and Bryant Ave | OWSC | PM | 9.1 | A | 9.2 | A | 9.8 | A | 10.1 | B |
| 4 Brower Ave and Bryant Ave | TWSC | PM | 9.3 | A | 9.4 | A | 9.6 | A | 9.7 | A |
| 5 Truman Ave and Bruckner Circle North | TWSC | PM | 10.5 | B | 11.3 | B | 11.7 | B | 12.1 | B |
| 6 Truman Ave and Bruckner Circle South | TWSC | PM | 9.1 | A | 9.2 | A | 9.2 | A | 9.2 | A |
| 7 Grant Ave and Oak Ave | Signal | PM | 24.1 | C | 25.9 | C | 26.4 | C | 26.8 | C |
| 8 Truman Ave and Oak Ave | AWSC | PM | 9.6 | A | 10.2 | B | 10.7 | B | 11.0 | B |

## Notes:

AWSC = All Way Stop Control, OWSC = One-Way Stop Control, TWSC = Two-Way Stop Control,
1 The number of attendees would increase from 1,000 to 1,500 for most football games as a result of the project.
2 The number of attendees would increase from 2,000 to 2,200 for homecoming games a result of the project
3 Average delay for an signalized or AWSC intersection is reported for the entire intersection.
Average delay for a side-street stop controlled intersection is reported for the worst stop-controlled approach.

## VMT Analysis

The project would result in an increase in attendance for the football games and other sporting events. Depending on the sporting seasons, the average trip increase per day from the increased attendees would range from 62 to 74 trips per day. According to the Governor's Office of Planning and Research (OPR), land use projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Using this definition, the project would cause a less-than-significant transportation impact on VMT.

## Other Transportation Issues

The project would not have an adverse effect on vehicle access and circulation on the surrounding streets or on existing pedestrian or bicycle facilities in the study area.

Many game attendees would park off-site, so the project would increase the number of pedestrians using the nearby sidewalks and crosswalks. It is likely that attendees parked on surrounding streets or at the church would cross Truman Avenue at the field entrance where no crosswalk is present. To increase pedestrian safety, depending on the expected attendance, the school may need to have a crossing guard at the field entrance.

## 1. <br> Introduction

This report presents the results of the transportation impact analysis (TIA) conducted for the proposed installation of field lights at Mountain View High School. Mountain View High School (MVHS) is located at 3535 Truman Avenue in Mountain View, California. The project proposes to add lights at the existing track and athletic field at the southwest corner of the campus, bounded by Truman Avenue to the west and Oak Avenue to the south. Pedestrian access to the field is via the entrance located on Truman Avenue at the northwest corner of the field. The location of the MVHS field and the surrounding study area are shown on Figure 1. Figure 2 shows the MVHS campus and the location of the project site (track and athletic field).

The field lights would allow the school to provide flexible nighttime use of the field for various sporting and school events. MVHS currently uses portable, temporary lights for two to five football games per year. All other sporting events, marching band activities, and special events are currently held on campus without the use of portable lights (i.e. during daylight hours). The number of attendees is expected to increase from 1,000 to 1,500 for most football games and from 2,000 to 2,200 for rivalry or homecoming games with the installation of field lights. Attendance for all other sporting events is expected to increase from 200 to 500 attendees by having games at night as opposed to afternoon events. Because the evening football games are expected to have the highest increase in attendees (500 attendees), the transportation study is focused on the potential impacts resulting from the evening football games. All other field uses would have lesser impacts.

## Scope of Study

This study was conducted for the purpose of identifying the potential traffic impacts related to the proposed project. The potential impacts of the project were evaluated in accordance with the standards set forth by the Cities of Mountain View and Los Altos, the Santa Clara Valley Transportation Authority (VTA), and the California Environmental Quality Act (CEQA).

The study analyzed the traffic impacts of the project on eight key intersections in the vicinity of the school campus. The study intersections were selected in accordance with VTA's Transportation Impact Analysis Guidelines (October 2014). The study intersections are listed below and shown on Figure 1. The intersection of Grant Avenue and Oak Avenue is located in Los Altos, and the remaining seven intersections are located in Mountain View. Two of the study intersections - those located along Grant Road - are signalized, and six intersections - those located adjacent to the high school and along Truman Avenue - are unsignalized.

1. Grant Road and Bryant Avenue

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Figure 1
Site Location and Study Intersections

NORTH


Figure 2
Field Lighting Location and Potential Parking Locations
2. Truman Avenue and Bryant Avenue (unsignalized)
3. Truman Avenue and Bryant Avenue (unsignalized)
4. High School Driveway and Bryant Avenue (unsignalized)
5. Brower Avenue and North Parking Lot Driveway/Bryant Avenue (offset unsignalized)
6. Truman Avenue and Bruckner Circle North/West Parking Lot Driveway (offset unsignalized)
7. Truman Avenue and Bruckner Circle South/South School Access Driveway (offset unsignalized)
8. Grant Avenue and Oak Avenue (Los Altos)
9. Truman Avenue and Oak Avenue (unsignalized)

Traffic conditions at the study intersections were analyzed for a Friday evening time period from 5:00 to 7:00 PM, which is when the traffic increase due to the project is expected to be the greatest.

Traffic conditions were evaluated for the following scenarios:

- Existing Conditions. Existing Friday PM peak-hour traffic volumes were obtained from turningmovement counts conducted during a typical Friday without sporting events on November 1, 2019. The study intersections were evaluated with a level of service analysis using TRAFFIX software in accordance with the 2000 Highway Capacity Manual methodology.
- Baseline Conditions. Baseline conditions represent the existing traffic conditions with the football games currently hold at the school. Baseline traffic volumes were estimated by adding to existing peak-hour volumes the generated by 1,000 attendees for most football games.
- Baseline Plus Project Conditions. Existing plus project conditions reflect the projected traffic volumes with implementation of the project. Baseline plus project traffic volumes were estimated by adding to baseline traffic volumes the trips associated with additional 500 attendees. Baseline plus project conditions were evaluated relative to baseline conditions in order to determine potential project impacts.

The study also includes a vehicle miles traveled (VMT) analysis, vehicle queuing analysis at selected intersections, an evaluation of potential impacts to pedestrian and bicycle facilities, and a review of site access.

## Methodology

This section presents the methods used to determine traffic conditions at study intersections and the traffic impacts of the project. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

## Data Requirements

The data required for the analysis were obtained from traffic counts and field observations. The following data were collected from these sources:

- Intersection traffic volumes,
- Lane geometries, and
- Signal timing and phasing.


## Intersection Level of Service Analysis Methodologies

## Signalized Intersection Level of Service

Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

For signalized intersections, the level of service method evaluates intersection operations on the basis of average control delay time for all vehicles at the intersection based on the methodology described the 2000 Highway Capacity Manual (HCM). Table 1 presents the level of service definitions for signalized intersections.

Table 1
Signalized Intersection Level of Service Definitions Based on Average Control Delay

| Level of Service | Description | Average Control Delay Per Vehicle (sec.) |
| :---: | :---: | :---: |
| A | Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay. | 10.0 or less |
| $\begin{aligned} & \text { B+ } \\ & \text { B } \\ & \text { B- } \end{aligned}$ | Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay. | 10.1 to 12.0 <br> 12.1 to 18.0 <br> 18.1 to 20.0 |
| $\begin{aligned} & \text { C+ } \\ & \text { C } \\ & \text { C- } \end{aligned}$ | Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping. | $\begin{aligned} & 20.1 \text { to } 23.0 \\ & 23.1 \text { to } 32.0 \\ & 32.1 \text { to } 35.0 \end{aligned}$ |
| $\begin{aligned} & \mathrm{D}+ \\ & \mathrm{D} \\ & \mathrm{D}- \end{aligned}$ | The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lenghts, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable. | 35.1 to 39.0 <br> 39.1 to 51.0 <br> 51.1 to 55.0 |
| $\begin{aligned} & \mathrm{E}+ \\ & \mathrm{E} \\ & \mathrm{E}- \end{aligned}$ | This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently. | 55.1 to 60.0 60.1 to 75.0 75.1 to 80.0 |
| F | This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels. | greater than 80.0 |

Source: Transportation Research Board, 2000 Highway Capacity Manual (Washington, D.C., 2000) p10-16. VTA Traffic Level of Service Analysis Guidelines (June 2003), Table 2.

This study utilizes TRAFFIX software to determine intersection levels of service based on the 2000 HCM methodology. Since TRAFFIX is approved by VTA as the level of service analysis software for CMP signalized intersections, the Cities of Mountain View and Los Altos employ the CMP defaults values for the analysis parameters. TRAFFIX software was used to analyze intersection operations and intersection impacts base on the increases in critical-movement delay and the volume-to-capacity ratio (v/c) between no-project and project scenarios.

According to the 2030 General Plan Action Items (MOB 8.1.3), until adoption of new significance thresholds of performance indicators occurs, the City of Mountain View has interim level of service

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(LOS) standards based on the 1992 General Plan. The interim standard for signalized intersections is LOS D, except for CMP intersections and intersections in the Downtown and San Antonio Center planning areas, where the standard is LOS E. None of the study intersections are CMP intersections, thus the LOS D standard applies to all City-controlled intersections. Similarly, the City of Los Altos level of standard for signalized intersections is LOS D or better.

## Unsignalized Intersection Level of Service

Level of service analysis at unsignalized intersections is generally used to determine the need for modification in the type of intersection control (i.e., all-way stop or signalization). As part of the evaluation, traffic volumes and delays are evaluated to determine if the existing intersection control is appropriate.

For unsignalized intersections, level of service depends on the average delay experienced by vehicles on the stop-controlled approaches. Thus, for all-way stop controlled intersections, level of service is determined by the average delay for all movements through the intersection. For side street stopcontrolled intersections (two-way or T-intersections), operations are defined by the average control delay experienced by vehicles entering the intersection from the stop-controlled approaches on minor streets or from left-turn approaches on major streets. For side street stop-controlled intersections, the level of service is reported based on the average delay for the worst approach. The level of service definitions for unsignalized intersections is shown in Table 2. This study utilizes TRAFFIX software to determine intersection levels of service based on the 2000 HCM methodology for unsignalized intersection.

The City of Mountain View does not have an adopted level of service standard for unsignalized intersections. However, the City of Mountain View strives to maintain LOS D for unsignalized intersections.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Average Delay

| Level of Service | Description | Average Delay Per Vehicle (Sec.) |
| :---: | :---: | :---: |
| A | Little or no traffic delay | 10.0 or less |
| B | Short traffic delays | 10.1 to 15.0 |
| C | Average traffic delays | 15.1 to 25.0 |
| D | Long traffic delays | 25.1 to 35.0 |
| E | Exy long traffic delays | 35.1 to 50.0 |
| F | greater than 50.0 |  |
| Source: Transportation Research Board, 2000 Highway Capacity Manual (Washington, D.C., 2000) p17-2. |  |  |

## Intersection Vehicle Queuing Analysis

The analysis of intersection operations is typically supplemented with a vehicle queuing analysis at study intersections where the project would add a substantial number of vehicle trips to the left-turn movements or stop-controlled approaches. The analysis provides a basis for estimating future left-turn pocket storage requirements at the study intersections and is presented for informational purposes
only, since the Cities of Mountain View and Los Altos have not defined a policy related to queuing. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of " $n$ " vehicles for a vehicle movement using the following formula:

$$
P(x=n)=\frac{\lambda^{n} e^{-(\lambda)}}{n!}
$$

## Where:

$P(x=n)=$ probability of " $n$ " vehicles in queue per lane
$\mathrm{n}=$ number of vehicles in the queue per lane
$\lambda$ = average \# of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)
The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles for a particular left-turn movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Or, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60 -second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement. Vehicle queuing at unsignalized intersections are evaluated based on the delay experienced at the specific study turn movement.

## Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. Significance criteria for impacts on signalized intersections are based on the Cities of Mountain View and Los Altos level of service standards. For the unsignalized intersections, the City of Mountain View has applied significance thresholds to unsignalized intersections in other traffic studies even though there is no formally adopted level of service policy for unsignalized intersections.

## Signalized Intersections

According to the Cities of Mountain View and Los Altos level of service standards, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour, either of the following conditions occurs:

1. The level of service at the intersection drops below its respective level of service standard (LOS D or better for local intersections) when project traffic is added, or
2. An intersection that operates below its level of service standard under no-project conditions experiences an increase in critical-movement delay of four (4) or more seconds, and an increase in critical volume-to-capacity ratio ( $\mathrm{v} / \mathrm{c}$ ) of one percent ( 0.01 ) or more when project traffic is added.

The exception to this threshold is when the addition of project traffic reduces the amount of average control delay for critical movements, i.e., the change in average control delay for critical movements are negative. In this case, the threshold is when the project increases the critical v/c value by 0.01 or more.

A significant impact is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to its acceptable level of service or to an average delay that is better than no-project conditions.

## Unsignalized Intersections

The project is said to create a significant adverse impact on traffic conditions at an unsignalized intersection in the City of Mountain View if for the peak hour:

1. The addition of project traffic causes the average intersection delay for all-way stop-controlled or the worst movement/approach for side-street stop-controlled intersections to degrade to LOS F, and
2. The intersection satisfies the California Manual of Uniform Traffic Control Devices (CA MUTCD) peak-hour volume signal warrant.

The determination of appropriate improvements to unsignalized intersections typically includes a qualitative and quantitative analysis of movement delay, movement traffic volumes, intersection safety, and need for signalization. For this reason, significant impacts, and the associated improvements to unsignalized intersections, are frequently determined on the basis of professional judgment.

## Transit Services

Significant impacts to transit service would occur if the project:

- Creates demand for public transit services above the capacity that is provided or planned; or
- Disrupts existing transit services or facilities; or
- Conflicts with an existing or planned transit facility; or
- Conflicts with transit policies adopted by the City of Mountain View, VTA, or Caltrans for their respective facilities in the study area.


## Pedestrian and Bicycle Facilties

The Mountain View 2030 General Plan (July 2012) describes related policies necessary to ensure pedestrian and bicycle facilities are safe and effective for City residents. Using the General Plan as a guide, significant impacts to these facilities would occur when a project or an element of the project:

- Creates a hazardous condition that does not currently exist for pedestrians and bicyclists, or otherwise interferes with pedestrian accessibility to the site and adjoining areas; or
- Conflicts with an existing or planned pedestrian or bicycle facility; or
- Conflicts with policies related to bicycle and pedestrian activity adopted by the City of Mountain View, VTA, or Caltrans for their respective facilities in the study area.


## Report Organization

This report has a total of four chapters. Chapter 2 describes existing conditions including the existing roadway network, transit service, bicycle and pedestrian facilities. Chapter 3 describes the method used to estimate project traffic, the intersection operations under baseline plus project conditions, and the project's impact on the existing roadway network. Chapter 4 presents the analysis of other transportation-related issues, including VMT analysis, vehicle queuing at selected intersections, and vehicle, bicycle, and pedestrian access.

## 2. <br> Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, pedestrian and bicycle facilities, and traffic operations at the study intersections.

## Existing Roadway Network

Regional access to the project site is provided via SR 85 and SR 237.
State Route 85 (SR 85) is a six-lane freeway in the vicinity of the project site that extends from US 101 in Mountain View to US 101 in San Jose. It also has interchanges connecting it to SR 237 to the north and I-280 to the south in the project vicinity. The freeway has two mixed-flow lanes and one HOV lane in each direction. The closest interchange to the project site is at Fremont Avenue.

State Route 237 (SR 237) is a four- to six-lane freeway in the vicinity of the project site that extends from El Camino Real in the west to I-880 in Milpitas in the east. The intersection of Grant Road and El Camino Real provides access to and from SR 237. Access to SR 237 is also provided from SR 85.

Local access to the site is provided by Grant Road, Fremont Avenue, Bryant Avenue, Truman Avenue, and Oak Avenue. These roadways are described below.

Grant Road is a north-south arterial that extends between Foothill Expressway in the south and El Camino Real in the north, where it transitions into SR 237. Between El Camino Real and Covington Road, Grant Road has four lanes and a raised median. South of Preston Drive, Grant Road has two lanes. The southbound direction narrows to a single lane between Covington Road and Preston Drive. The northbound direction widens to two lanes north of Preston Drive. Bike lanes exist on both sides of the street for the entire street. On street parking is allowed along various locations on Grant Road. South of Covington Road, the posted speed limit is 25 mph , and north of Covington Road, the posted speed limit is 35 mph . Grant Road provides access to the project via its intersections with Bryant Avenue and Oak Avenue.

Fremont Avenue is a two-lane collector that is oriented in an east-west direction in the vicinity of the project. The roadway begins in Los Altos at El Monte Avenue, running parallel to Foothill Expressway, until its intersection with Miramonte Avenue, where it changes direction slightly and continues east into Sunnyvale. Fremont Avenue has a full interchange with SR 85 near the MVHS school site. Between Grant Road and the Sunnyvale city limit, Fremont Avenue has a landscaped median with left-turn pockets provided at intersections. Bike lanes exist on both sides of the street within the project vicinity. On-street parking is prohibited along both sides of the street in the project vicinity. Fremont Avenue has
a posted speed limit of 30 mph . It provides access to the project site via its intersection with Truman Avenue.

Bryant Avenue is a two-lane neighborhood collector that runs in an east-west direction between Grant Road and Lubich Drive. Bryant Avenue has bike lanes on both sides of the street between Grant Road and Truman Avenue. On-street parking is allowed for the whole day along the southern side. Parking is prohibited along the northern side of the street between 8 AM and 2 PM east of Truman Avenue. Parking is prohibited between 7 AM and 6 PM on both sides of Bryant Avenue west of Churin Drive and along the north side of Bryant Avenue between Churin Drive and Truman Avenue. The posted speed limit is 30 mph between Grant Road and Truman Avenue, and 25 mph east of Truman Avenue. Bryant Avenue provides direct access to the MVHS parking lots.

Truman Avenue is a two-lane neighborhood collector that runs in a north-south direction between Bryant Avenue and Fremont Avenue. On-street parking is prohibited on Truman Avenue from 8 AM to 2 PM between Andre Avenue to the Foothill Covenant Church along both sides of the street. It has a posted speed limit of 25 mph . Truman Avenue provides direct vehicle access to MVHS parking lots and pedestrian access to the track and athletic field.

Oak Avenue is a two-lane local street that runs in an east-west direction between Grant Road and Ravenswood Drive. On-street parking is allowed on both sides of the street for the entire street. It has a posted speed limit of 25 mph . Oak Avenue is adjacent to the southern frontage of MVHS, but there is no vehicle access onto the campus from Oak Avenue.

## Existing Bicycle Facilities

The bicycle facilities that provide access to the MVHS track and athletic field include a Class I bike trail, striped bike lanes (Class II bikeways), and shared bike routes (Class III bikeways). The existing bicycle facilities are shown on Figure 3.

The Class I Stevens Creek Trail runs in a north-south direction from Shoreline at Mountain View, near the San Francisco Bay, to Dale Avenue. Near its southern terminus, access to the trail is provided at the intersection of Sleeper Avenue and Franklin Avenue. Students and attendees are able to proceed further south on Franklin Avenue, Diericx Drive, Lubich Drive, and Brower Avenue in order to access the high school. At its southern terminus, the Stevens Creek Trail provides a bike/pedestrian overcrossing across SR 85 to the bike boulevard that begins at Dale Avenue.

Class II bike lanes are present on Grant Road (south of Phyllis Avenue/Martens Avenue), South Drive, Bryant Avenue, Fremont Avenue, and Covington Road (8-9AM and 3-4PM between Miramonte and Eastwood Drive).

A Class III bike route is present on Portland Avenue, Covington Road, and Newcastle Drive, with signage to remind motorists and bicyclists to share the road. Numerous residential streets near the high school campus are not marked as bike routes, but they carry low traffic volumes and are conducive to bicycling. The Permanente Creek Diversion Canal runs parallel to Bryant Avenue and Levin Avenue, but there are two streets that provide access over the canal: Diericx Drive and St. Giles Lane. These streets provide connectivity between the neighborhoods north of the canal and the high school. In general, the safe routes to school program recommends that students cross Grant Road at Eunice Avenue, at Levin Avenue, or at Bryant Avenue, rather than riding on Grant Road for long segments.

Overall, the school is well-served by the existing bicycle facilities in the vicinity of the campus, which provide good connectivity between the project site and the surrounding neighborhoods.


Figure 3
Existing Bicycle Facilities

MVHS also provides facilities on-site for bicyclists. There are four locations on campus for parking bicycles, and the closest ones to the track and athletic field are located north of the sport field at the driveway to the south staff parking area. Bike racks are provided at each of the bicycle parking locations, and bike stands with tools and an air pressure pump are provided at three of them. The location of all the bicycle parking areas is clearly noted on the campus map which is posted at numerous locations on campus.

## Existing Pedestrian Facilities

Sidewalks are present along the street frontages adjacent to the campus, including Bryant Avenue, Truman Avenue, and Oak Avenue. Specifically, continuous sidewalks are present along both sides of Bryant Avenue and Truman Avenue. Oak Avenue has sidewalks on the north side of the street between Harwalt Drive and Pritchett Way. Streets in the nearby residential neighborhoods in Mountain View have sidewalks, although residential streets in Los Altos generally do not.

Crosswalks are provided across the following approaches to nearby unsignalized intersections:

- Truman and Bryant: All four approaches,
- Truman and Bruckner Circle (south): South approach (crossing Truman),
- Truman and Oak: All four approaches, and
- Bryant and Ivan Way: North approach (crossing Ivan Way) and west approach (crossing Bryant). This intersection is near the north frontage of the student parking lot, across from the MVLA District office and the Freestyle Academy campus.

Pedestrian-activated push buttons with countdown walk signals and ramps are present at both of the signalized study intersections on Grant Road.

Pedestrian access to the field is via a gate on Truman Avenue, opposite Blue Lake Square.

## Existing Transit Service

There is no VTA bus service in the area at night, so attendees of the evening/night events at the school are not expected to utilize VTA bus services.

## Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 4.

## Existing Traffic Volumes

Existing traffic volumes were obtained from Friday evening (5:00 - 7:00 PM) counts collected on November 1, 2019, which is when night game traffic would be highest. There were not sporting events at the school during the count collection. The existing PM peak-hour intersection volumes are shown in Figure 5. The peak-hour of traffic occurred from 5:30 to 6:30 PM at most study intersections. Intersection turning-movement counts conducted for this analysis are presented in Appendix A.

Field Lighting at Mountain View High School


Figure 4

Field Lighting at Mountain View High School

## LEGEND

|  | $=$ Mountain View High School |
| ---: | :--- |
|  | $=$ Field Lighting Location |
| X | $=$ Study Intersection |
| XX | $=$ PM Peak-Hour Traffic Volumes |



Figure 5
Existing Traffic Volumes

## Existing Intersection Levels of Service

Intersection levels of service (see Table 3) were evaluated against the City of Mountain View and City of Los Altos standards. The results of the analysis show that all intersections are currently operating at an acceptable level of service during the PM peak hour on a typical Friday without sporting events. The intersection levels of service calculation sheets are included in Appendix B.

## Table 3

Existing Intersection Levels of Service

| Intersection | Control | Peak <br> Hour | Count <br> Date | $\begin{aligned} & \text { Avg. Delay }{ }^{1} \\ & \text { (sec) } \end{aligned}$ | LOS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 Grant Rd and Bryant Ave | Signal | PM | 11/01/19 | 15.5 | B |
| 2 Truman Ave and Bryant Ave | AWSC | PM | 11/01/19 | 7.7 | A |
| 3 School Dwy and Bryant Ave | OWSC | PM | 11/01/19 | 9.1 | A |
| 4 Brower Ave/School Dwy and Bryant Ave | TWSC | PM | 11/01/19 | 9.3 | A |
| 5 Truman Ave and Bruckner Circle North | TWSC | PM | 11/01/19 | 9.6 | A |
| 6 Truman Ave and Bruckner Circle South | TWSC | PM | 11/01/19 | 8.8 | A |
| 7 Grant Ave and Oak Ave | Signal | PM | 11/01/19 | 19.3 | B- |
| 8 Truman Ave and Oak Ave | AWSC | PM | 11/01/19 | 8.2 | A |

## Notes:

AWSC = All Way Stop Control, OWSC = One-Way Stop Control, TWSC = Two-Way Stop Control,
1 Average delay for an signalized or AWSC intersection is reported for the entire intersection.
Average delay for a OWSC/TWSC intersection is reported for the worst stop-controlled approach.

## Observed Existing Traffic Conditions

Traffic conditions were observed in the field in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service, and (2) to identify any locations where the level of service analysis does not accurately reflect level of service in the field.

Overall, the level of service analysis appears to reflect actual existing traffic conditions at the study intersections. No significant intersection operational deficiencies were observed during the PM peak hour of traffic.

## 3. <br> Baseline Plus Project Conditions

This chapter describes the roadway traffic operations under baseline conditions and baseline plus project conditions. Baseline conditions represent the roadway traffic conditions with the football games currently hold at the school. Baseline plus project conditions represent baseline traffic volumes with the addition of traffic generated by the additional attendees as a result of the project. Baseline plus project conditions were evaluated relative to baseline conditions in order to identify potential impacts associated with the project. The chapter includes the procedures used to determine baseline traffic volumes and the method to estimate the project traffic.

## Roadway Network under Baseline Plus Project Conditions

The roadway network under baseline plus project conditions would be the same as the existing roadway network because the project would not alter the existing intersection lane configurations.

## Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the traffic related to the proposed field light installation at Mountain View High School was estimated for the PM peak hour. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

## Trip Generation

Typically, the magnitude of traffic generated by a project can be estimated by applying to the size of the development the applicable trip generation rates published in the Institute of Transportation Engineers' (ITE) Trip Generation Manual for the proposed land uses. However, the ITE Trip Generation Manual does not have trip generation rates for sporting events/games. Therefore, vehicle trips that would be generated by the evening sporting events at the school were estimated based on data collected for a homecoming football game on a Friday night at Mitty High School in San Jose, California.

Hexagon counted the number of vehicles parked at Mitty High School, at an adjacent church, and on the surrounding streets during the homecoming game on Friday, October 5, 2018 and on a regular Friday night on October 26, 2018. The difference between the two parking counts represents Mitty game night traffic. Based on the number of additional parked vehicles and the estimated attendance at the

Friday night game, the vehicle occupancy rate was an average of 3.24 persons per vehicle for the game attendees.

The vehicle occupancy rate was used to estimate the number of vehicle trips that currently occur and that would be generated by the project. Currently, the school has football games in the afternoon/early evening with up to 1,000 attendees. With the proposed field lighting, the school expects attendance to increase up to 1,500 attendees. These evening/night games typically would have the junior varsity (JV) games played prior to the varsity game, and the JV games typically have fewer attendees.

Under project conditions, it was assumed that there would be 450 attendees for the JV game with 150 attendees staying for the varsity game. Therefore, before the varsity game starts, there would be an additional 1,350 inbound attendees for the varsity game (for a total of 1,500 attendees) and 300 outbound attendees leaving after the JV game. Based on the rate of 3.24 persons per vehicle, the project is expected to generate 417 inbound trips and 93 outbound trips (see Table 4) from 6:30 to 7:30 PM for games starting at 7:00 PM, which occurs after the peak hour of local traffic (5:30 to 6:30 PM). Therefore, the traffic analysis is conservative by evaluating the traffic conditions during the peak hour with the project trips.

Because the project would replace the existing evening games that are played with portable lights, trips associated with 200 attendees leaving the JV game and 900 inbound attendees for the varsity game were subtracted from the gross project traffic to derive the net project trips. Therefore, the project is expected to generate 139 new inbound trips and 31 new outbound trips during the PM peak hour (see Table 4).

Table 4
Trip Generation Estimate

| Land Use | Size | Peak Friday Evening |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rate $^{1}$ (persons/veh) | In | Out | Total Trips |
| Proposed Field Lighting ${ }^{2}$ |  |  |  |  |  |
| Junior Varsity Game | 300 outbound attendees | 3.24 | -- | 93 | 93 |
| Varsity Game | 1,350 inbound attendees | 3.24 | 417 | -- | 417 |
| Existing ${ }^{3}$ |  |  |  |  |  |
| Junior Varsity Game | 200 outbound attendees | 3.24 | -- | 62 | 62 |
| Varsity Game | 900 inbound attendees | 3.24 | 278 | -- | 278 |
| New Project Trips |  |  | 139 | 31 | 170 |

Notes:

1. Average rate is based on counts conducted in October 2018 for a Friday night football game at Mitty High School in San Jose.
2. Under project conditions, it was assumed that 300 out of 450 attendees would leave after the JV game, 150 attendees stay for the varsity game, and 1,350 additional attendees attend the varsity game for a total of 1,500 attendees for the varsity game.
3. Under existing conditions, it was assumed that 200 out of 300 attendees would leave after the JV game, 100 attendees stay for the varsity game, and 900 additional attendees attend the varsity game for a total of 1,000 attendees for the varsity game.

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## Trip Distribution and Assignment

The trip distribution patterns for the project were estimated based on existing travel patterns on the surrounding roadway network and the locations of complementary land uses (see Figure 6). The net peak-hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern and potential parking locations.

The trip assignment (see Figure 7) reflects the fact that event attendees are most likely to park their vehicles closest to the entrance of the track and athletic field located on Truman Avenue, opposite Blue Lake Square. Although the school has on-site parking lots, according to the School District, the event attendees are and would also park on Truman Avenue and Oak Avenue and at the church across Truman Avenue from the field. Figure 2 shows the potential parking locations.

## Baseline Plus Project Traffic Volumes

Traffic volumes under baseline conditions (see Figure 8) were estimated by adding the trips from the existing football games with1,000 attendees to the existing traffic volumes. The project trip estimates for the additional 500 employees were then added to the baseline traffic volumes to yield baseline plus project traffic volumes (see Figure 9).

## Baseline Plus Project Intersection Analysis

The results of the level of service analysis (see Table 5) show that, measured against the City of Mountain View and City of Los Altos level of service standards, all of the study intersections would operate at an acceptable level of service during the PM peak hour of traffic under baseline plus project conditions for most football games (1,500 attendees) and homecoming football games (2,200 attendees). The intersection level of service calculation sheets are included in Appendix B.

Table 5
Baseline Plus Project Intersection Levels of Service

| Intersection | Control | Peak Hour | Baseline with Most Football Games ${ }^{1}$ |  |  |  | Baseline with Homecoming Games ${ }^{2}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | No Project |  | with Project |  | No Project |  | with Project |  |
|  |  |  | Avg. Delay ${ }^{3}$ (sec) | LOS | Avg. Delay ${ }^{3}$ (sec) | LOS | Avg. Delay ${ }^{3}$ (sec) | LOS | Avg. Delay ${ }^{3}$ (sec) | LOS |
| 1 Grant Rd and Bryant Ave | Signal | PM | 19.5 | B- | 21.6 | C+ | 24.4 | C | 25.4 | C |
| 2 Truman Ave and Bryant Ave | AWSC | PM | 8.0 | A | 8.3 | A | 9.5 | A | 10.2 | B |
| 3 School Dwy and Bryant Ave | OWSC | PM | 9.1 | A | 9.2 | A | 9.8 | A | 10.1 | B |
| 4 Brower Ave and Bryant Ave | TWSC | PM | 9.3 | A | 9.4 | A | 9.6 | A | 9.7 | A |
| 5 Truman Ave and Bruckner Circle North | TWSC | PM | 10.5 | B | 11.3 | B | 11.7 | B | 12.1 | B |
| 6 Truman Ave and Bruckner Circle South | TWSC | PM | 9.1 | A | 9.2 | A | 9.2 | A | 9.2 | A |
| 7 Grant Ave and Oak Ave | Signal | PM | 24.1 | C | 25.9 | C | 26.4 | C | 26.8 | C |
| 8 Truman Ave and Oak Ave | AWSC | PM | 9.6 | A | 10.2 | B | 10.7 | B | 11.0 | B |

[^0]
## LEGEND

$=$ Mountain View High School
= Field Lighting Location
$\otimes=$ Study Intersection


Figure 6
Project Trip Distribution
$\underset{\text { Not to Scale }}{\text { NORTH }}$

Field Lighting at Mountain View High School


Figure 7

Field Lighting at Mountain View High School






(ax

$+$

Field Lighting at Mountain View High School



XX = PM Peak-Hour Traffic Volumes
Figure 9
Baseline Plus Project Traffic Volumes (1,500 Attendees)

Figure 6
Project Trip Distribution

Figure 7
Project Trip Assignment

Figure 8
Baseline Traffic Volumes

Figure 9
Baseline Plus Project Traffic Volumes

## 4. <br> Other Transportation Issues

This chapter presents other transportation issues associated with the project. These include an analysis of:

- Vehicle miles traveled (VMT),
- Vehicle queuing at selected intersections, and
- Potential effects to vehicle, bicycle, and pedestrian access

Unlike the level of service impact methodology, which is adopted by the City Councils of both the Cities of Mountain View and Los Altos, the analyses in this chapter are based on professional judgement in accordance with the standards and methods employed by the traffic engineering community.

## VMT Analysis

Per California Senate Bill 743, the California Natural Resources Agency, with assistance from the Governor's Office of Planning and Research (OPR), adopted new CEQA guidelines in December 2018. The new guidelines state that automobile delay, as measured by LOS, will no longer constitute a significant environmental impact under CEQA, and that VMT is considered the most appropriate metric to evaluate a project's transportation impacts. Local agencies have until July 2020 to adopt the new policy that establishes the thresholds and procedures for evaluating transportation impacts based on VMT.

The School District has not yet adopted any analysis procedures, standards, or guidelines related to VMT. Therefore, an analysis of VMT for this project is presented for informational purposes only to aid decision makers during this transition period from LOS to VMT.

The project would result in an increase in in attendance for the football games and other sporting events. An increase in number of attendees would result in an increase in VMT generated by the additional attendees. Currently, football games with up to 1,000 attendees are played at the campus. The project would increase the attendance of the football games by up to 500 attendees. Football season typically last for 7 weeks between September and November with 3 to 5 games hosted by MVHS. Therefore, the average trip increase per day would be approximately 62 trips ( 500 attendees / 3.24 persons per vehicle $\times 2$ trips (inbound and outbound) $\times 1$ event per week / 5 days per week $=62$ trips per day) when there is a football game during the week.

The project would increase the attendance of other sporting events, such as soccer in winter and lacrosse in spring, by up to 300 attendees. These games typically are held twice per week. Therefore, the average trip increase per day would be approximately 74 trips ( 300 attendees / 3.24 persons per

Page
vehicle x 2 trips (inbound and outbound) x 2 events per week / 5 days per week $=74$ trips per day) during the sporting seasons.

Therefore, as a result of the project, the average trip increase per day would range from 62 to 74 trips per day depending on the sporting seasons. According to the OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018), land use projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Using this definition, the project would cause a less-than-significant transportation impact on VMT.

## Queuing Analysis

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis for intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled movements. Vehicle queues were estimated using a Poisson probability distribution, described in Chapter 1. The analysis was conducted for the following movements:

- Grant Road and Bryant Avenue: Southbound left turn
- Truman Avenue and Bryant Avenue: Eastbound movement
- Truman Avenue and Bruckner Circle (North): Southbound movement
- Grant Road and Oak Avenue: Southbound left turn
- Truman Avenue and Oak Avenue: Eastbound movement

The analysis (see Table 6) found that the existing storage capacity would be inadequate for baseline and baseline plus project conditions at the intersections of Grant Road/Bryant Avenue and Grant Road/Oak Avenue. The following discusses the intersections where the storage capacity was found to be inadequate for the 95th percentile queue during the PM peak hour.

## Grant Road and Bryant Avenue

The southbound left-turn lane on Grant Road is approximately 225 feet long and provides storage for approximately 9 vehicles. The queuing analysis found that it is adequate to serve existing traffic volumes. The 95 th percentile queue length ( 7 vehicles) is shorter than the length of the left-turn lane. This result is consistent with field observations and all vehicles were able to clear the intersection in one signal cycle.

Under baseline conditions when there is a football game, the 95th percentile queue would extend past the storage capacity by 2 vehicles. The project is estimated to add 3 vehicles to the 95th percentile queue under the baseline plus project condition. However, this would occur infrequently in the evening when there are games at the school. It should also be noted that by definition, the 95th percentile queue only occurs on 5 percent of the signal cycles (about one cycle for the intersection with a 137second cycle length), and the 95th percentile queue only occurs for a very brief period at the end of the signal cycle (an estimated 5 to 10 seconds). Therefore, although the vehicle queues would exceed the storage pocket, the small increase in queue length would have an insignificant effect on traffic operations at this intersection.

## Grant Road and Oak Avenue

The trip assignment for this study assumed that some drivers going southbound on Grant Road to Mountain View High School would continue straight through the light at Bryant Avenue and turn left at Oak Avenue. This route allows visitors to approach the off-site parking spaces at the church and along Truman Avenue and Oak Avenue.

The queuing analysis indicates that the left-turn pocket on Grant Road at Oak Avenue is currently inadequate - and would continue to be inadequate - in the PM peak hour. There is approximately 150
feet, or 6 vehicles, of storage. The 95th percentile queue was calculated to have 9 vehicles under existing conditions. However, field observations showed that all left-turn vehicles were able to clear the intersection in one cycle. The 95th percentile queue was calculated to increase by 4 vehicles under baseline conditions when there is a football game, and the project is estimated to add two vehicle to the 95th percentile queue. The southbound left-turn lane at Oak Avenue extends into the northbound leftturn lane at Eunice Avenue, which provides access to a small residential neighborhood. Field observations showed that the volume of northbound left turns at Eureka Avenue in the PM peak hour is low. Thus, southbound turn-left vehicles at Oak Avenue are able to use more of the center lane without disrupting the flow of traffic on Grant Road.

Table 6
Queuing Analysis Summary

|  | Grant Rd \& Bryant Ave | Truman Ave \& Bryant Ave | Truman Ave \& Bruckner Circle (N) | Grant Rd \& Oak Ave | Truman Ave \& Oak Ave |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | SBL | EBL/EBT/EBR | SBL/SBT/SBR | SBL | EBL/EBT/EBR |
| Analysis Scenario | PM | PM | PM | PM | PM |
| Existing |  |  |  |  |  |
| Cycle/Delay ${ }^{1}$ (sec) | 137 | 7.3 | 7.5 | 130 | 7.9 |
| Volume (vphpl) | 94 | 94 | 125 | 114 | 102 |
| 95th \%. Queue (veh/ln) | 7 | 1 | 1 | 8 | 1 |
| 95th \%. Queue ${ }^{2}$ (ft/ln) | 175 | 25 | 25 | 200 | 25 |
| Storage (ft/ln) | 225 | 275 | 300 | 150 | 300 |
| Adequate (Y/N) | Y | Y | Y | N | Y |
| Baseline |  |  |  |  |  |
| Cycle/Delay ${ }^{1}$ (sec) | 137 | 7.8 | 7.6 | 130 | 9.9 |
| Volume (vphpl) | 173 | 180 | 212 | 212 | 221 |
| 95th \%. Queue (veh/ln) | 11 | 2 | 2 | 12 | 2 |
| 95th \%. Queue ${ }^{2}$ (ft/ln) | 275 | 50 | 50 | 300 | 50 |
| Storage (ft/ln) | 225 | 275 | 300 | 150 | 300 |
| Adequate (Y/N) | N | Y | Y | N | Y |
| Baseline Plus Project |  |  |  |  |  |
| Cycle/Delay ${ }^{1}$ (sec) | 137 | 8.2 | 7.7 | 130 | 10.6 |
| Volume (vphpl) | 225 | 236 | 253 | 248 | 250 |
| 95th \%. Queue (veh/ln) | 14 | 2 | 2 | 14 | 2 |
| 95th \%. Queue ${ }^{2}$ (ft/ln) | 350 | 50 | 50 | 350 | 50 |
| Storage (ft/ln) | 225 | 275 | 300 | 150 | 300 |
| Adequate (Y/N) | N | Y | Y | N | Y |

## Notes:

SBL = southbound left-turn movement; SBT = southbound thorugh movement; SBR = southbound right movement; EBL = eastbound left-turn movement; EBT = eastbound through movement; EBR = eastbound right-turn movement.
Cycle length used for signalized intersections, delay of movement used for unsignalized intersections
${ }^{2}$ Assumes 25 feet per vehicle queued.

## Vehicle Access

It is expected that a majority of attendees would park their vehicles off-site along Truman Avenue and at the Foothill Covenant Church with some vehicles parked along Oak Street and the school lots closer to the field entrance. Due to low traffic volumes on Truman Avenue and Oak Street, game attendees accessing/exiting on-street parking spaces or on-site parking lots are not expected to substantially disrupt traffic flow on these streets.

## Bicycle and Pedestrian Access

There are a number of existing bicycle facilities that provide good bicycle access to the school. Given that the sporting events would start and end after dark, it is expected that there would be minimal bicycle usage.

Many game attendees would park off-site, so the project would increase the number of pedestrians using the nearby sidewalks and crosswalks. It is likely that attendees parked on surrounding streets or at the church would cross Truman Avenue at the field entrance where no crosswalk is present. The project would also increase the amount of vehicle traffic on Truman Avenue, which would increase conflict between vehicles and pedestrians at the entrance. To increase pedestrian safety, depending on the expected attendance, the school may need to have a crossing guard at the field entrance.

Mountain View High School Field Lighting Project TIA Technical Appendices

## Appendix A

Traffic Counts
(303) 216-2439
www.alltrafficdata.net

Location: 1 GRANT RD \& BRYANT AVE PM
Date: Friday, November 1, 2019
Peak Hour: 05:15 PM - 06:15 PM
Peak 15-Minutes: 06:00 PM - 06:15 PM


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles

| Interval <br> Start Time | Eastbound |  |  | BRYANT AVE <br> Westbound |  |  |  | GRANT RD <br> Northbound |  |  |  | GRANT RD <br> Southbound |  |  |  | Total | Rolling Hour | Pedestrian Crossings |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru Right | U-Turn | Left | Thru |  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |  | West | East | South | North |
| 5:00 PM |  |  |  | 0 | 7 | 0 | 20 | 0 | 0 | 95 | 4 | 0 | 24 | 195 | 0 | 345 | 1,281 |  | 0 | 0 | 0 |
| 5:15 PM |  |  |  | 0 | 5 | 0 | 11 | 0 | 0 | 90 | 6 | 0 | 28 | 198 | 0 | 338 | 1,286 |  | 1 | 1 | 0 |
| 5:30 PM |  |  |  | 0 | 3 | 0 | 20 | 0 | 0 | 93 | 6 | 0 | 20 | 179 | 0 | 321 | 1,183 |  | 0 | 1 | 0 |
| 5:45 PM |  |  |  | 0 | 3 | 0 | 17 | 0 | 0 | 93 | 6 | 0 | 15 | 143 | 0 | 277 | 1,144 |  | 0 | 3 | 0 |
| 6:00 PM |  |  |  | 0 | 12 | 0 | 24 | 0 | 0 | 92 | 5 | 0 | 31 | 186 | 0 | 350 | 1,091 |  | 0 | 0 | 0 |
| 6:15 PM |  |  |  | 0 | 6 | 0 | 12 | 0 | 0 | 69 | 7 | 0 | 20 | 121 | 0 | 235 |  |  | 0 | 0 | 0 |
| 6:30 PM |  |  |  | 0 | 10 | 0 | 24 | 0 | 0 | 90 | 12 | 0 | 22 | 124 | 0 | 282 |  |  | 0 | 0 | 0 |
| 6:45 PM |  |  |  | 0 | 5 | 0 | 15 | 0 | 0 | 74 | 7 | 0 | 20 | 103 | 0 | 224 |  |  | 0 | 0 | 0 |

## Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights |  |  |  | 0 | 23 | 0 | 70 | 0 | 0 | 360 | 23 | 0 | 94 | 697 | 0 | 1,267 |
| Mediums |  |  |  | 0 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 0 | 9 | 0 | 19 |
| Total |  |  |  | 0 | 23 | 0 | 72 | 0 | 0 | 368 | 23 | 0 | 94 | 706 | 0 | 1,286 |

(303) 216-2439
www.alltrafficdata.net

Location: 2 TRUMAN AVE \& BRYANT AVE PM
Date: Friday, November 1, 2019
Peak Hour: 05:45 PM - 06:45 PM
Peak 15-Minutes: 06:30 PM - 06:45 PM


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles

| Interval | BRYANT AVE Eastbound |  |  |  | BRYANT AVE <br> Westbound |  |  |  | TRUMAN AVE Northbound |  |  |  | TRUMAN AVE Southbound |  |  |  | Total | Rolling Hour | Pedestrian Crossings |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru |  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |  | West | East | South | North |
| 5:00 PM | 0 | 2 | 2 | 18 | 0 | 13 | 8 | 1 | 0 | 15 | 1 | 6 | 0 | 0 | 1 | 0 | 67 | 276 | 1 | 1 | 0 | 1 |
| 5:15 PM | 0 | 3 | 3 | 19 | 0 | 8 | 2 | 0 | 0 | 19 | 1 | 6 | 0 | 0 | 2 | 1 | 64 | 282 | 0 | 0 | 3 | 1 |
| 5:30 PM | 0 | 0 | 6 | 18 | 0 | 13 | 2 | 0 | 0 | 24 | 1 | 11 | 0 | 0 | 2 | 1 | 78 | 296 | 0 | 0 | 2 | 0 |
| 5:45 PM | 1 | 1 | 5 | 17 | 0 | 9 | 3 | 0 | 0 | 25 | 1 | 4 | 0 | 0 | 0 | 1 | 67 | 298 | 0 | 1 | 3 | 2 |
| 6:00 PM | 0 | 1 | 4 | 15 | 0 | 14 | 3 | 0 | 0 | 17 | 1 | 18 | 0 | 0 | 0 | 0 | 73 | 281 | 2 | 1 | 2 | 2 |
| 6:15 PM | 0 | 0 | 7 | 17 | 0 | 12 | 7 | 0 | 0 | 19 | 4 | 11 | 0 | 0 | 1 | 0 | 78 |  | 0 | 1 | 2 | 3 |
| 6:30 PM | 0 | 1 | 14 | 11 | 0 | 3 | 13 | 0 | 0 | 17 | 1 | 15 | 0 | 1 | 2 | 2 | 80 |  | 3 | 0 | 0 | 1 |
| 6:45 PM | 0 | 0 | 6 | 5 | 0 | 7 | 5 | 0 | 0 | 13 | 2 | 10 | 0 | 0 | 2 | 0 | 50 |  | 1 | 2 | 4 | 2 |

Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 1 | 3 | 29 | 59 | 0 | 38 | 25 | 0 | 0 | 76 | 7 | 48 | 0 | 1 | 3 | 3 | 293 |
| Mediums | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Total | 1 | 3 | 30 | 60 | 0 | 38 | 26 | 0 | 0 | 78 | 7 | 48 | 0 | 1 | 3 | 3 | 298 |

(303) 216-2439
www.alltrafficdata.net

Location: 3 HIGH SCHOOL DWY \& BRYANT AVE PM
Date: Friday, November 1, 2019
Peak Hour: 06:00 PM - 07:00 PM
Peak 15-Minutes: 06:30 PM - 06:45 PM


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles

| Interval | BRYANT AVE Eastbound |  |  |  | BRYANT AVE <br> Westbound |  |  |  | HIGH SCHOOL DWY <br> Northbound |  |  |  | Southbound |  |  |  | Total | Rolling Hour | Pedestrian Crossings |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | U-Turn | Left | Thru | Right | U-Turn |  | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |  | West | East | South | North |
| 5:00 PM | 0 | 0 | 7 | 1 | 0 | 1 | 19 | 0 | 0 | 1 | 0 | 1 |  |  |  |  | 30 | 98 | 1 | 1 | 3 |  |
| 5:15 PM | 0 | 0 | 6 | 1 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |  |  |  |  | 15 | 99 | 0 | 0 | 1 |  |
| 5:30 PM | 0 | 0 | 13 | 3 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 |  |  |  |  | 28 | 115 | 0 | 0 | 5 |  |
| 5:45 PM | 0 | 0 | 9 | 2 | 0 | 0 | 11 | 0 | 0 | 3 | 0 | 0 |  |  |  |  | 25 | 131 | 0 | 0 | 3 |  |
| 6:00 PM | 1 | 0 | 12 | 2 | 0 | 0 | 15 | 0 | 0 | 1 | 0 | 0 |  |  |  |  | 31 | 134 | 0 | 0 | 0 |  |
| 6:15 PM | 0 | 0 | 11 | 5 | 0 | 0 | 14 | 0 | 0 | 1 | 0 | 0 |  |  |  |  | 31 |  | 0 | 0 | 7 |  |
| 6:30 PM | 0 | 0 | 10 | 17 | 0 | 3 | 3 | 0 | 0 | 11 | 0 | 0 |  |  |  |  | 44 |  | 0 | 0 | 3 |  |
| 6:45 PM | 0 | 0 | 7 | 9 | 0 | 0 | 8 | 0 | 0 | 4 | 0 | 0 |  |  |  |  | 28 |  | 0 | 0 | 2 |  |

## Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  | 0 |
| Lights | 1 | 0 | 40 | 33 | 0 | 3 | 39 | 0 | 0 | 17 | 0 | 0 |  |  |  |  | 133 |
| Mediums | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |  |  |  |  | 1 |
| Total | 1 | 0 | 40 | 33 | 0 | 3 | 40 | 0 | 0 | 17 | 0 | 0 |  |  |  |  | 134 |

(303) 216-2439
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Location: 4 N PARKING LOT DWY \& BRYANT AVE PM
Date: Friday, November 1, 2019
Peak Hour: 05:30 PM - 06:30 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles

| Interval Start Time | BRYANT AVE Eastbound |  |  |  | BRYANT AVE <br> Westbound |  |  |  | N PARKING LOT DWY Northbound |  |  |  | BROWER AVE <br> Southbound |  |  |  | Total | Rolling Hour | Pedestrian Crossings |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn |  | Thru |  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |  | West | East | South | North |
| 5:00 PM | 0 | 7 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 10 | 29 | 88 | 2 | 0 | 0 | 1 |
| 5:15 PM | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 13 | 87 | 0 | 0 | 1 | 4 |
| 5:30 PM | 0 | 10 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 9 | 28 | 98 | 1 | 0 | 1 | 3 |
| 5:45 PM | 0 | 5 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 18 | 87 | 1 | 0 | 2 | 1 |
| 6:00 PM | 0 | 10 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 28 | 85 | 0 | 0 | 0 | 1 |
| 6:15 PM | 0 | 8 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 11 | 24 |  | 3 | 0 | 3 | 2 |
| 6:30 PM | 0 | 7 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 17 |  | 1 | 0 | 1 | 0 |
| 6:45 PM | 0 | 5 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 16 |  | 0 | 0 | 2 | 0 |

## Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 33 | 10 | 1 | 0 | 0 | 13 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 34 | 96 |
| Mediums | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Total | 0 | 33 | 11 | 1 | 0 | 0 | 14 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 34 | 98 |


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Location: 5 TRUMAN AVE \& WEST PARKING LOT DWY PM
Date: Friday, November 1, 2019
Peak Hour: 05:30 PM - 06:30 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - Bicycles


Peak Hour - Pedestrians


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles

| Interval | BRUCKNER CIR Eastbound |  |  |  | WEST PARKING LOT DWY$\qquad$ Westbound |  |  |  | TRUMAN AVE Northbound |  |  |  | TRUMAN AVE Southbound |  |  |  | Total | Rolling Hour | Pedestrian Crossings |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | U-Turn | Left | Thru | Right | U-Turn |  | Thru |  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |  | West | East | South | North |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 22 | 2 | 0 | 2 | 31 | 0 | 60 | 241 | 3 | 2 | 0 | 1 |
| 5:15 PM | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 2 | 22 | 0 | 51 | 249 | 1 | 0 | 3 | 0 |
| 5:30 PM | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 1 | 32 | 4 | 75 | 269 | 0 | 1 | 0 | 0 |
| 5:45 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 24 | 0 | 0 | 1 | 25 | 1 | 55 | 242 | 1 | 3 | 0 | 0 |
| 6:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 1 | 26 | 1 | 68 | 229 | 1 | 2 | 0 | 0 |
| 6:15 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 33 | 1 | 0 | 1 | 31 | 1 | 71 |  | 2 | 1 | 1 | 0 |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 33 | 1 | 0 | 0 | 12 | 1 | 48 |  | 1 | 0 | 1 | 0 |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 24 | 0 | 0 | 0 | 16 | 1 | 42 |  | 1 | 2 | 1 | 0 |

## Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 3 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 3 | 129 | 1 | 0 | 4 | 113 | 7 | 266 |
| Mediums | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 |
| Total | 0 | 3 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 3 | 131 | 1 | 0 | 4 | 114 | 7 | 269 |


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Location: 6 TRUMAN AVE \& SOUTH SCHOOL ACCESS DWY PM
Date: Friday, November 1, 2019
Peak Hour: 05:30 PM - 06:30 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - Bicycles


Peak Hour - Pedestrians


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles

| Interval Start Time | BRUCKNER CIR S <br> Eastbound |  |  |  | SOUTH SCHOOL ACCESS <br> W\&\&OUnd |  |  |  | TRUMAN AVE Northbound |  |  |  | TRUMAN AVE Southbound |  |  |  | Total | Rolling Hour | Pedestrian Crossings |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn |  | Thru |  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |  | West | East | South | North |
| 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 32 | 0 | 58 | 238 | 3 | 2 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 26 | 0 | 0 | 0 | 25 | 0 | 52 | 247 | 1 | 0 | 1 | 0 |
| 5:30 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 32 | 2 | 71 | 261 | 1 | 2 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 28 | 0 | 0 | 0 | 24 | 0 | 57 | 240 | 0 | 2 | 1 | 0 |
| 6:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 28 | 1 | 67 | 224 | 1 | 6 | 2 | 0 |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 33 | 0 | 0 | 0 | 30 | 0 | 66 |  | 2 | 1 | 0 | 0 |
| 6:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 33 | 0 | 0 | 0 | 14 | 1 | 50 |  | 2 | 1 | 1 | 0 |
| 6:45 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 24 | 0 | 0 | 0 | 14 | 0 | 41 |  | 2 | 2 | 0 | 0 |

## Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 3 | 131 | 0 | 0 | 0 | 113 | 3 | 258 |
| Mediums | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 |
| Total | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 3 | 133 | 0 | 0 | 0 | 114 | 3 | 261 |


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Location: 7 GRANT RD \& OAK AVE PM
Date: Friday, November 1, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles


## Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 0 | 0 | 1 | 0 | 28 | 0 | 58 | 0 | 2 | 331 | 28 | 0 | 113 | 640 | 1 | 1,202 |
| Mediums | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 0 | 1 | 6 | 0 | 15 |
| Total | 0 | 0 | 0 | 1 | 0 | 28 | 0 | 58 | 0 | 2 | 338 | 29 | 0 | 114 | 646 | 1 | 1,217 |

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Location: 8 TRUMAN AVE \& OAK AVE PM
Date: Friday, November 1, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM


Note: Total study counts contained in parentheses.
Traffic Counts - Motorized Vehicles


## Peak Rolling Hour Flow Rates

|  | Eastbound |  |  |  | Westbound |  |  |  | Northbound |  |  |  | Southbound |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vehicle Type | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |  |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 8 | 39 | 53 | 0 | 11 | 16 | 5 | 0 | 49 | 114 | 9 | 0 | 8 | 109 | 12 | 433 |
| Mediums | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 5 |
| Total | 0 | 9 | 40 | 53 | 0 | 11 | 16 | 5 | 0 | 49 | 115 | 9 | 0 | 8 | 111 | 12 | 438 |

Appendix B
Level of Service Calculations
















Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: | Stop Sign |  |  |  |  |  |  | Stop Sign |  |  |  | Uncontrolled |  |  |  |  | Uncontrolled |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 |  | 0 | 0 | 0 | 0 | 01 | 0 | 0 | 1 | 00 | 0 |
| Initial Vol: |  | 17 |  | 0 |  | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 41 | 33 |  | 3 | 40 | 0 |
| ApproachDel: |  |  | 9. |  |  |  |  |  | xxx |  |  |  |  | xxxx |  |  |  | xxx |  |

Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=17]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=134]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#3 Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound $\quad$ South Bound $\quad$ East Bound
Movement: West Bound


Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Lanes: $\quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0$
Initial Vol: 17 0 $0 \begin{array}{lllllllllll} & 0 & 0 & 0 & 0 & 41 & 33 & 3 & 40 & 0\end{array}$

Major Street Volume: 117
Minor Approach Volume: 17
Minor Approach Volume Threshold: 792
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound

| Movement: L - T - L L T - R L - T - R L - T - |  |  |  |
| :---: | :---: | :---: | :---: |


| Control: | Stop Sign |  |  |  |  |  |  | Stop Sign |  |  |  | Uncontrolled |  |  |  |  | Uncontrolled |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 01 | 0 | 0 | 1 | 00 | 0 |
| Initial Vol: |  | 17 |  | 0 |  | 0 |  | 0 |  | 0 | 0 |  | 0 | 41 | 33 |  | 3 | 40 | 0 |
| ApproachDel: |  |  | 9. |  |  |  |  |  | xxx |  |  |  |  | xxx |  |  |  | xxx |  |

Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=17]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=134]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#3 Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound $\quad$ South Bound $\quad$ East Bound
Movement: West Bound


Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Lanes: $\quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0$
Initial Vol: 17 0 $0 \begin{array}{lllllllllll} & 0 & 0 & 0 & 0 & 41 & 33 & 3 & 40 & 0\end{array}$

Major Street Volume: 117
Minor Approach Volume: 17
Minor Approach Volume Threshold: 792
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: | Stop Sign |  |  |  |  |  |  | Stop Sign |  |  |  | Uncontrolled |  |  |  |  | Uncontrolled |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 |  | 0 | 0 | 0 | 0 | 01 | 0 | 0 | 1 | 00 | 0 |
| Initial Vol: |  | 17 |  | 0 |  | 0 |  | 0 | 0 | 0 | 0 |  | 0 | 50 | 44 |  | 3 | 40 | 0 |
| ApproachDel: |  |  | 9. |  |  |  |  |  | xxx |  |  |  |  | xxx |  |  |  | xxx |  |

Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=17]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=154]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#3 Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound $\quad$ South Bound $\quad$ East Bound
Movement: West Bound


Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Lanes: $\quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0$


Major Street Volume: 137
Minor Approach Volume: 17
Minor Approach Volume Threshold: 750
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: |  | Stop | Sig |  |  |  |  | op S | Sig |  |  |  | Ucontr | olled |  | Uncontrolled |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 1 | 00 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 01 | 0 | 0 |  |  |  |  |
| Initial Vol: |  | 17 | 0 |  |  |  | 0 | 0 | ) | 0 |  | 0 | 150 | 160 |  | 3 | 40 |  | 0 |
| ApproachDel: |  |  |  |  |  |  |  | xxx |  |  |  |  | xxxxx |  |  |  | xxxxx |  |  |

Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=17]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=370]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

## Peak Hour Volume Signal Warrant Report [Urban]


Intersection \#3 Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound $\quad$ South Bound $\quad$ East Bound
Movement: West Bound


Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Lanes: $\quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0$
Initial Vol: $17 \begin{array}{llllllllllll} & 0 & 0 & 0 & 0 & 0 & 0 & 150 & 160 & 3 & 40 & 0\end{array}$

Major Street Volume: 353
Minor Approach Volume: 17
Minor Approach Volume Threshold: 497
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

| Control: |  | Stop Sign |  |  |  |  |  | Stop Sign |  |  |  | Uncontrolled |  |  |  | Uncontrolled |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 | 1! | 0 | 0 | 00 | 1! | 0 | 0 | 0 | 0 | 1 | 0 | 0 |  |
| Initial Vol: |  | 4 |  | 0 | 0 |  |  | 1 | 0 |  | 34 | 33 | 11 |  | 1 |  | 0 | 14 |  | 0 |  |
| ApproachDel: |  |  | 9. |  |  |  |  |  | 8.5 |  |  | xx | xxx |  |  |  |  | xxxx |  |  |  |

Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=98]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=98]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#4 Brower Ave \& Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Initial Vol: $4 \begin{array}{llllllllllll} & 0 & 0 & 1 & 0 & 34 & 33 & 11 & 1 & 0 & 14 & 0\end{array}$

Major Street Volume: 59
Minor Approach Volume: 35
Minor Approach Volume Threshold: 974
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound

| Control: | Stop Sign |  |  |  |  |  |  | Stop Sign |  |  |  | Uncontrolled |  |  |  | Uncontrolled |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 | 1! | 0 | 0 | 00 | $1!$ | 0 | 0 | 0 | 0 | 1 | 0 | 0 |  |
| Initial Vol: |  | 4 |  | 0 |  |  |  | 1 | 0 |  | 34 | 33 | 11 |  | 1 |  | 0 | 14 |  | 0 |  |
| ApproachDel: |  |  | 9. |  |  |  |  |  | 8.5 |  |  | xx | xxx |  |  |  |  | xxxx |  |  |  |

Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=98]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=98]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#4 Brower Ave \& Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Initial Vol: $4 \quad 0 \quad 0 \quad 1 \quad 0 \quad 34 \quad 33 \quad 11 \quad 1 \quad 0$

Major Street Volume: 59
Minor Approach Volume: 35
Minor Approach Volume Threshold: 974
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.



Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=107]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=107]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#4 Brower Ave \& Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
$\begin{array}{lllllllllllllllllllll}\text { Lanes: } & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1! & 0 & 0 & 0 & 0 & 1! & 0 & 0 & 0 & 0 & 1 & 0 & 0\end{array}$
Initial Vol: $4 \begin{array}{llllllllllll} & 0 & 0 & 1 & 0 & 34 & 33 & 11 & 10 & 0 & 14 & 0\end{array}$

Major Street Volume: 68
Minor Approach Volume: 35
Minor Approach Volume Threshold: 936

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.



Approach [northbound] [lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=207]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=207]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#4 Brower Ave \& Dwy/Bryant Ave

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Lanes: $1 \begin{array}{llllllllllllllllllll} & 0 & 0 & 0 & 0 & 0 & 0 & 1! & 0 & 0 & 0 & 0 & 1! & 0 & 0 & 0 & 0 & 1 & 0 & 0\end{array}$
Initial Vol: $4 \quad 0 \quad 0 \quad 1 \quad 0 \quad 34 \quad 33 \quad 11 \quad 110 \quad 0 \quad 14 \quad 0$

Major Street Volume: 168
Minor Approach Volume: 35
Minor Approach Volume Threshold: 695

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $L$ - $T$ - L - T - R L - T - R L T - R

| Control: | Uncontrolled |  |  | Uncontrolled |  |  |  | Stop Sign |  |  |  |  |  | Stop Sign |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 0 1! 0 | 0 | 0 | 0 | 1! 0 | 0 | 0 | 0 |  | 1! | 0 | 0 | 0 | 0 | 1! | 0 |  |  |
| Initial Vol: |  | 3131 | 1 |  | 4 | 114 | 7 |  | 3 |  | 0 |  | 3 |  |  | 0 |  | 2 |  |
| ApproachDel: |  | xxxxx |  |  |  | xxxx |  |  |  |  | 9.6 |  |  |  |  | 9.4 |  |  |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=269]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach [westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=3]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=269]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#5 Truman Ave/Bruckner Circle North

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: $\quad 0 \quad 0 \quad 1!0 \quad 0 \quad 0 \quad 0 \quad 1!0 \quad 0 \quad 0 \quad 0 \quad 1!0$ Initial Vol: 3131 1 4 114 $\begin{array}{lllllllll}7 & 3 & 0 & 3 & 1 & 0 & 2\end{array}$

Major Street Volume: 260
Minor Approach Volume: 6
Minor Approach Volume Threshold: 579
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.
Intersection \#5: Truman Ave/Bruckner Circle North

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L T - R

| Control: | Uncontrolled |  |  | Uncontrolled |  |  |  |  | Stop Sign |  |  |  | Stop Sign |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 0 1! 0 | 0 | 0 | 0 | 1! 0 | 0 | 0 | 0 | 1! | 0 | 0 | 00 | 1! | 0 |  |
| Initial Vol: |  | 3137 | 28 |  | 57 | 148 | 7 |  | 3 | 0 |  | 3 | 10 | 0 |  | 11 |
| ApproachDel: |  | xxxxxx |  |  |  | xxxx |  |  |  | 10.5 |  |  |  | 10.5 |  |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=407]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach [westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=21]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=407]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#5 Truman Ave/Bruckner Circle North

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Initial Vol: 3 137 28 57 $148 \quad 7 \quad 3 \quad 0 \quad 3 \quad 3 \quad 10 \quad 0 \quad 11$

Major Street Volume: 380
Minor Approach Volume: 21
Minor Approach Volume Threshold: 477

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $L$ - $T$ - L - T - R L - T - R L T - R


Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=480]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach [westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=31]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=480]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#5 Truman Ave/Bruckner Circle North

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: $\quad 0 \quad 0 \quad 1!0 \quad 0 \quad 0 \quad 0 \quad 1!0 \quad 0 \quad 0 \quad 0 \quad 1!0$ Initial Vol: 3 146 41 83 163 7 $\begin{array}{lllllllll} & 3 & 3 & 0 & 3 & 15 & 0 & 16\end{array}$

Major Street Volume: 443
Minor Approach Volume: 31
Minor Approach Volume Threshold: 437

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound

| Control: | Uncontrolled |  |  | Uncontrolled |  |  |  |  | Stop Sign |  |  |  | Stop Sign |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 0 1! 0 | 0 | 0 | 0 | 1! 0 | 0 | 0 | 0 | 1! 0 | 0 | 0 | 00 | 0 1! | 0 | 0 |
| Initial Vol: |  | 3216 | 39 |  | 79 | 162 | 7 |  | 3 | 0 |  | 3 | 20 | 0 |  | 20 |
| ApproachDel: |  | xxxxxx |  |  |  | xxx |  |  |  | 11.6 |  |  |  | 12.1 |  |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=552]
FAIL - Total volume less than 650 for intersection with less than four approaches.

Approach [westbound][lanes=1] [control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=40]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=4][total volume=552]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#5 Truman Ave/Bruckner Circle North

Future Volume Alternative: Peak Hour Warrant NOT Met


Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Initial Vol: $\begin{array}{llllllllllll} & 3 & 216 & 39 & 79 & 162 & 7 & 3 & 0 & 3 & 20 & 0\end{array} 20$

Major Street Volume: 506
Minor Approach Volume: 40
Minor Approach Volume Threshold: 401

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: | Uncontrolled |  |  |  |  | Uncontrolled |  |  |  |  | Stop Sign |  |  | Stop Sign |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 1 | 00 | 0 | 0 | 0 | 01 | 0 |  | 0 | 0 | 00 | 1 | 0 | 0 | 1! 0 | 0 |
| Initial Vol: |  | 4 | 133 | 0 |  | 0 | 114 |  | 3 |  | 0 | 0 | 7 |  | 0 | 0 | 0 |
| ApproachDel: |  |  | xxxx |  |  |  | xxxx |  |  |  |  | 8.8 |  |  |  | xxxx |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=7]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=261]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#6 Truman Ave/Bruckner Circle South

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \quad \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: $\quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0$ Initial Vol: $\begin{array}{llllllllllll}4 & 133 & 0 & 0 & 114 & 3 & 0 & 0 & 7 & 0 & 0 & 0\end{array}$


Major Street Volume: 254
Minor Approach Volume: 7
Minor Approach Volume Threshold: 585
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: | Uncontrolled |  |  |  |  | Uncontrolled |  |  |  |  | Stop Sign |  |  | Stop Sign |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 1 | 00 | 0 | 0 | 0 | 01 | 0 | 0 |  | 0 | 00 | 1 | 0 | 0 | 1! 0 | 0 |
| Initial Vol: |  | 4 | 166 | 0 |  | 0 | 157 |  | 3 |  | 0 | 0 | 7 |  | 0 | 0 | 0 |
| ApproachDel: |  |  | xxxx |  |  |  | xxxx |  |  |  |  | 9.1 |  |  |  | xxxx |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=7]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=337]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#6 Truman Ave/Bruckner Circle South

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \quad \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: $010 \begin{array}{lllllllllllllllllll} & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1! & 0 & 0\end{array}$ Initial Vol: $\begin{array}{llllllllllll}4 & 166 & 0 & 0 & 157 & 3 & 0 & 0 & 7 & 0 & 0 & 0\end{array}$

Major Street Volume: 330
Minor Approach Volume: 7
Minor Approach Volume Threshold: 515
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: | Uncontrolled |  |  |  |  | Uncontrolled |  |  |  |  | Stop Sign |  |  | Stop Sign |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 1 | 00 | 0 | 0 | 0 | 01 | 0 |  | 0 | 0 | 00 | 1 | 0 | 0 | 1! 0 | 0 |
| Initial Vol: |  | 4 | 188 | 0 |  | 0 | 177 |  | 3 |  | 0 | 0 | 7 |  | 0 | 0 | 0 |
| ApproachDel: |  |  | xxxx |  |  |  | xxxx |  |  |  |  | 9.2 |  |  |  | xxxx |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=7]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=379]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#6 Truman Ave/Bruckner Circle South

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \quad \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
 Initial Vol: $\begin{array}{llllllllllll}4 & 188 & 0 & 0 & 177 & 3 & 0 & 0 & 7 & 0 & 0 & 0\end{array}$

Major Street Volume: 372
Minor Approach Volume: 7
Minor Approach Volume Threshold: 483
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}$ - T - R

| Control: | Uncontrolled |  |  |  |  | Uncontrolled |  |  |  |  | Stop Sign |  |  | Stop Sign |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lanes: | 0 | 1 | 00 | 0 | 0 | 0 | 01 | 0 | 0 |  | 0 | 00 | 1 | 0 | 0 | 1! 0 | 0 |
| Initial Vol: |  | 4 | 256 | 0 |  | 0 | 181 |  |  |  | 0 | 0 | 7 |  | 0 | 0 | 0 |
| ApproachDel: |  |  | xxxx |  |  |  | xxxx |  |  |  |  | 9.2 |  |  |  | xxxx |  |

Approach [eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule \#1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule \#2: [approach volume=7]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule \#3: [approach count=3][total volume=451]
FAIL - Total volume less than 650 for intersection with less than four approaches.

## SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection \#6 Truman Ave/Bruckner Circle South

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach: North Bound South Bound East Bound West Bound
Movement: $\mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \mathrm{L}-\mathrm{T}-\mathrm{R} \quad \mathrm{L}-\mathrm{T}-\mathrm{R}$

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Lanes: $0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0$
Initial Vol: $4 \begin{array}{llllllllllll} & 256 & 0 & 0 & 181 & 3 & 0 & 0 & 7 & 0 & 0 & 0\end{array}$

Major Street Volume: 444
Minor Approach Volume: 7
Minor Approach Volume Threshold: 436
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4 -hour or 8 -hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.



| Approach: | North Bound |  |  | South Bound |  |  | East Bound |  |  | West Bound |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement: | L - | T |  | L | T | R L | L - T | T - R | R L | - T | R |  |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 1010 | 1010 | 10 |  |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.04 | 4.04 | 4.04 | 4.04 .0 |  | . 0 |
| Volume Module: >> Count Date: 1 Nov 2019 << 5:00-6:00p |  |  |  |  |  |  |  |  |  |  |  |  |
| Base Vol: | 2 | 338 | 29 | 114 | 646 | 1 | 0 | 0 | 128 | 280 |  |  |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 01.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 2 | 338 | 29 | 114 | 646 | 1 | 0 | 0 | 12 | 280 |  |  |
| Added Vol: | 0 | 0 | 33 | 97 | 0 | 0 | 0 | 0 | 07 | 7 | 17 |  |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00 | 00 | 0 |  |
| Initial Fut: | 2 | 338 | 62 | 211 | 646 | 1 | 0 | 0 | 13 | 350 |  |  |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 2 | 338 | 62 | 211 | 646 | 1 | 0 | 0 | 13 | 350 | 75 |  |
| Reduct Vol: | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 00 | 0 |  |
| Reduced Vol: | 2 | 338 | 62 | 211 | 646 | 1 | 0 | 0 | 13 | 350 |  |  |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 2 | 338 | 62 | 211 | 646 | 1 | 0 | 0 | 13 | 350 | 75 |  |
| Saturation Flow Module: |  |  |  |  |  |  |  |  |  |  |  |  |
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.95 | 0.95 | 0.92 | 0.95 | 0.95 | 0.92 | 21.00 | 0.92 | 20.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 0.84 | 0.16 | 1.00 | 0.99 | 0.01 | 0.00 | 0.00 | 1.00 | 0.32 | 0.00 | 0.68 |
| Final Sat.: | 1750 | 1521 | 279 | 1750 | 1797 | 3 | 0 | 0 | 1750 | 557 | 011 | 193 |
| Capacity Analysis Module: |  |  |  |  |  |  |  |  |  |  |  |  |
| Vol/Sat: | 0.00 | 0.22 | 0.22 | 0.12 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.06 |
| Crit Moves: | **** |  |  |  | *** |  |  | *** | ** *** |  |  |  |
| Green Time: | 7.0 | 60.3 | 60.3 | 32.7 | 86.0 | 86.0 | 0.0 | 0.0 | 10.0 | 15.0 |  | 15.0 |
| Volume/Cap: | 0.02 | 0.48 | 0.48 | 0.48 | 0.54 | 0.54 | 0.00 | 00.00 | 0.01 | 0.54 | 0.00 | 0.54 |
| Delay/Veh: | 58.3 | 24.5 | 24.5 | 42.2 | 12.2 | 12.2 | 0.0 | 0.0 | 55.4 | 57.3 | 0.0 | 57.3 |
| User DelAdj: | : 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 01.00 | 01.00 | 01.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 58.3 | 24.5 | 24.5 | 42.2 | 12.2 | 12.2 | 0.0 | 0.0 | 55.4 | 57.3 | 0.0 | 57.3 |
| LOS by Move: | - $\mathrm{E}+$ | C | C | D | B | B | A | A E | + E+ | + A | E+ |  |
| HCM2 kAvge: | 0 | 11 | 11 | 8 | 14 | 14 | 0 | 0 | 05 | 0 | 5 |  |



| Approach: | North Bound |  |  | South Bound |  |  | East Bound |  |  | West Bound |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement: | L - | T |  | L - | T | R L | L - T | T - R | R L | - T | - R |  |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 1010 | 1010 | 10 |  |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.04 | 4.04 | 4.04 | 4.04 .0 |  | . 0 |
| Volume Module: >> Count Date: 1 Nov 2019 << 5:00-6:00p |  |  |  |  |  |  |  |  |  |  |  |  |
| Base Vol: | 2 | 338 | 29 | 114 | 646 | 1 | 0 | 0 | 128 | 280 |  |  |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 01.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 2 | 338 | 29 | 114 | 646 | 1 | 0 | 0 | 12 | 280 |  |  |
| Added Vol: | 0 | 1 | 49 | 133 | 0 | 0 | 0 | 0 | 011 | 10 | 25 |  |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Initial Fut: | 2 | 339 | 78 | 247 | 646 | 1 | 0 | 0 | 13 | 390 |  |  |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 2 | 339 | 78 | 247 | 646 | 1 | 0 | 0 | 13 | 390 | 83 |  |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Reduced Vol: | 2 | 339 | 78 | 247 | 646 | 1 | 0 | 0 | 13 | 390 |  |  |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 2 | 339 | 78 | 247 | 646 | 1 | 0 | 0 | 13 | 390 | 83 |  |
| Saturation Flow Module: |  |  |  |  |  |  |  |  |  |  |  |  |
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.95 | 0.95 | 0.92 | 20.95 | 0.95 | 0.92 | 21.00 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 0.81 | 0.19 | 1.00 | 0.99 | 0.01 | 0.00 | 0.00 | 1.00 | 0.32 | 0.00 | 0.68 |
| Final Sat.: | 1750 | 1463 | 337 | 1750 | 1797 | 3 | 0 | 0 | 1750 | 559 | 01 | 191 |
| Capacity Analysis Module: |  |  |  |  |  |  |  |  |  |  |  |  |
| Vol/Sat: | 0.00 | 0.23 | 0.23 | 0.14 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.07 |
| Crit Moves: | **** |  |  |  | *** |  |  | *** | ** *** |  |  |  |
| Green Time: | 7.0 | 56.9 | 56.9 | 34.7 | 84.6 | 84.6 | 0.0 | 0.0 | 10.0 | 16.4 |  | 16.4 |
| Volume/Cap: | 0.02 | 0.53 | 0.53 | 0.53 | 30.55 | 0.55 | 0.00 | 00.00 | 0.01 | 0.55 | 0.00 | 0.55 |
| Delay/Veh: | 58.3 | 27.4 | 27.4 | 41.8 | 13.0 | 13.0 | 0.0 | 0.0 | 55.4 | 56.4 | 0.0 | 56.4 |
| User DelAdj: | : 1.00 | 1.00 | 1.00 | 1.00 | 01.00 | 1.00 | 1.00 | 01.00 | 01.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 58.3 | 27.4 | 27.4 | 41.8 | 813.0 | 13.0 | 0.0 | 0.0 | 55.4 | 56.4 | 0.0 | 56.4 |
| LOS by Move: | E+ | C | C | D | B | B | A | A E | + E+ | + A | E+ |  |
| HCM2 kAvge: | 0 | 13 | 13 | 9 | 15 | 15 | 0 | 0 | 06 | 0 | $6$ |  |



| Approach: | North Bound |  |  | South Bound |  |  | East Bound |  |  | West Bound |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement: | L - | T |  | L - | T | R L | L - T | T - R | R L | - T | - R |  |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 1010 | 1010 | 10 |  |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.04 | 4.04 | 4.04 | 4.04. |  | . 0 |
| Volume Module: >> Count Date: 1 Nov 2019 << 5:00-6:00p |  |  |  |  |  |  |  |  |  |  |  |  |
| Base Vol: | 2 | 338 | 29 | 114 | 646 | 1 | 0 | 0 | 128 | 280 |  |  |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 01.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 2 | 338 | 29 | 114 | 646 | 1 | 0 | 0 | 12 | 280 |  |  |
| Added Vol: | 0 | 7 | 67 | 129 | 0 | 0 | 0 | 0 | 015 | 50 | 34 |  |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Initial Fut: | 2 | 345 | 96 | 243 | 646 | 1 | 0 | 0 | 14 | 430 | 092 |  |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 2 | 345 | 96 | 243 | 646 | 1 | 0 | 0 | 14 | 430 | 92 |  |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Reduced Vol: | 2 | 345 | 96 | 243 | 646 | 1 | 0 | 0 | 14 | 430 |  |  |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 2 | 345 | 96 | 243 | 646 | 1 | 0 | 0 | 14 | 430 | 92 |  |
| Saturation Flow Module: |  |  |  |  |  |  |  |  |  |  |  |  |
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.95 | 0.95 | 0.92 | 20.95 | 0.95 | 0.92 | 21.00 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 0.78 | 0.22 | 1.00 | 0.99 | 0.01 | 0.00 | 0.00 | 1.00 | 0.32 | 0.00 | 0.68 |
| Final Sat.: | 1750 | 1408 | 392 | 1750 | 1797 | 3 | 0 | 0 | 1750 | 557 | 011 | 193 |
| Capacity Analysis Module: |  |  |  |  |  |  |  |  |  |  |  |  |
| Vol/Sat: | 0.00 | 0.25 | 0.25 | 0.14 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.08 |
| Crit Moves: | **** |  |  |  | *** |  |  | *** | ** *** |  |  |  |
| Green Time: | 7.0 | 57.5 | 57.5 | 32.6 | 83.2 | 83.2 | 0.0 | 0.0 | 10.0 | 17.8 |  | 17.8 |
| Volume/Cap: | 0.02 | 0.55 | 0.55 | 0.55 | 50.56 | 0.56 | 0.00 | 00.00 | 0.01 | 0.56 | 0.00 | 0.56 |
| Delay/Veh: | 58.3 | 27.6 | 27.6 | 43.9 | 13.8 | 13.8 | 0.0 | 0.0 | 55.4 | 55.4 | 0.0 | 55.4 |
| User DelAdj: | : 1.00 | 1.00 | 1.00 | 1.00 | 01.00 | 1.00 | 1.00 | 01.00 | 01.00 | 01.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 58.3 | 27.6 | 27.6 | 43.9 | 9 13.8 | 13.8 | 0.0 | 0.0 | 55.4 | 55.4 | 0.0 | 55.4 |
| LOS by Move: | E+ | C | C | D | B | B | A | A E | + E+ | + A | E+ |  |
| HCM2 kAvge: | 0 | 14 | 14 | 9 | 15 | 15 | 0 | 0 | 06 | 0 | $6$ |  |






Approach: North Bound South Bound East Bound West Bound

$\left.\begin{array}{llllllllllllll}\text { Min. Green: } & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0\end{array}\right]$
Volume Module: >> Count Date: 1 Nov $2019 \ll$ 5:00-6:00P


$\begin{array}{lrccrccrrrrr}\text { Initial Bse: } & 49 & 115 & 9 & 8 & 111 & 12 & 9 & 40 & 53 & 11 & 16 \\ \text { Added Vol: } & 10 & 63 & 10 & 14 & 32 & 36 & 108 & 22 & 18 & 0 & 0 \\ \text { PasserByVol: } & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0\end{array}$
Initial Fut: $\begin{array}{lllllllllllllllll}59 & 178 & 19 & 22 & 143 & 48 & 117 & 62 & 71 & 11 & 16 & 5\end{array}$


| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| :--- | ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PHF Volume: | 59 | 178 | 19 | 22 | 143 | 48 | 117 | 62 | 71 | 11 | 16 | 5 |


| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Reduced Vol: $59178 \quad 19 \quad 22 \quad 143 \quad 48 \quad 117 \quad 62 \quad 71 \quad 11 \quad 16 \quad 5$
PCE Adj: $1.001 .001 .00 \quad 1.001 .00 \quad 1.00 \quad 1.001 .00 \quad 1.00 \quad 1.00 \quad 1.00 \quad 1.00$
$\begin{array}{llllllllllllll}\text { MLF Adj: } & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00 & 1.00\end{array}$
FinalVolume: $59178 \quad 19 \quad 22 \begin{array}{lllllllll} & 143 & 48 & 117 & 62 & 71 & 11 & 16 & 5\end{array}$
Saturation Flow Module:
Adjustment: $1.001 .001 .001 .001 .001 .00 \quad 1.001 .001 .001 .001 .001 .00$
Lanes: $\quad 0.230 .700 .07 \quad 0.10 \quad 0.67$ 0.23 $0.470 .25 \quad 0.28 \quad 0.34 \quad 0.50 \quad 0.16$
Final Sat.: $\begin{array}{llllllllllllllll} & 163 & 491 & 52 & 73 & 476 & 160 & 320 & 170 & 194 & 208 & 302 & 94\end{array}$

Capacity Analysis Module:
$\begin{array}{llllllllllllllll}\text { Vol/Sat: } & 0.36 & 0.36 & 0.36 & 0.30 & 0.30 & 0.30 & 0.37 & 0.37 & 0.37 & 0.05 & 0.05 & 0.05\end{array}$

Delay/Veh: 10.4 10.4 $10.4 \quad 9.7 \quad 9.7 \quad 9.7 \quad 10.610 .610 .6 \quad 8.6 \quad 8.6 \quad 8.6$
Delay Adj: 1.001 .001 .001 .001 .001 .001 .001 .001 .001 .001 .001 .00
AdjDel/Veh: $10.410 .4 \quad 10.4 \quad 9.7 \quad 9.7 \quad 9.7 \quad 10.610 .610 .6 \quad 8.6 \quad 8.6 \quad 8.6$
LOS by Move: B B B A A A $\quad$ A $\quad$ B $\quad$ B $\quad$ B $\quad$ A A A
$\begin{array}{lllll}\text { ApproachDel: } & 10.4 & 9.7 & 10.6 & 8.6\end{array}$
$\begin{array}{lllll}\text { Delay Adj: } & 1.00 & 1.00 & 1.00 & 1.00\end{array}$
$\begin{array}{lllll}\text { ApprAdjDel: } & 10.4 & 9.7 & 10.6 & 8.6\end{array}$

Note: Queue reported is the number of cars per lane.
Peak Hour Volume Signal Warrant Report [Urban]
Intersection \#8 Truman Ave/Oak Ave

Future Volume Alternative: Peak Hour Warrant NOT Met



| Approach: | North Bound |  | South Bound |  | East Bound |  | West Bound |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement: | L - T |  | L - T - |  | L - T - R | R L | - T | R |  |
| Min. Green: | 0 | 0 | 0 | 0 | 00 | 00 | 00 | 0 |  |
| Volume Module: >> Count Date: 1 Nov 2019 << 5:00-6:00p |  |  |  |  |  |  |  |  |  |
| Base Vol: | 49115 | 9 | 8111 | 12 | 9405 | 531 | 1116 | 5 |  |
| Growth Adj: | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 01.001 .001 .00 |  | 01.00 | 1.00 | 1.00 |
| Initial Bse: | : 49115 | 9 | 8111 | 12 | 940 | $53^{1.00}$ | 1116 |  | 5 |
| Added Vol: | 10108 | 10 | 1439 | 49 | 12222 | 18 | 00 |  | 0 |
| PasserByVol: | : 00 | 0 | 00 | 0 | 000 | 0 | 00 | 0 |  |
| Initial Fut: | : 59223 | 19 | 22150 | 61 | 13162 | 71 | 1116 |  | 5 |
| User Adj: | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 59223 | 19 | 22150 | 61 | 13162 | 71 | 1116 |  | 5 |
| Reduct Vol: | 00 | 0 | 0 | 0 | 000 | 0000 |  |  |  |
| Reduced Vol: | 59223 | 19 | 22150 | 61 | 13162 | 711116 |  |  |  |
| PCE Adj: | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | : 59223 | 19 | 22150 | 61 | 13162 | 711116 |  |  | 5 |
| Saturation Flow Module: |  |  |  |  |  |  |  |  |  |
| Adjustment: | $\begin{aligned} & \text { 'low Module } \\ & 1.001 .00 \end{aligned}$ | 1.00 | 1.001 .00 | 1.00 | 1.001 .00 | 01.00 | $0 \quad 1.00$ | 1.00 | 1.00 |
| Lanes: | 0.200 .74 | 0.06 | 0.090 .65 | 0.26 | $0.50 \quad 0.23$ | 0.27 | 0.34 | 0.50 | 0.16 |
| Final Sat.: | 136514 | 44 | 65446 | 182 | 326154 | 177 | 19628 |  | 89 |
| Capacity Analysis Module: |  |  |  |  |  |  |  |  |  |
| Vol/Sat: | $0.43 \quad 0.43 \quad 0.43$ |  | 0.340 .34 | 0.34 | 0.400 .40 | 0.40 | 0.060 .06 |  | 0.06 |
| Crit Moves: | **** |  | **** |  | **** |  | **** |  |  |
| Delay/Veh: | 11.511 .5 | 11.5 | 10.210 .2 | 10.2 | 11.211 .2 | 211.2 | 28.9 | 8.9 | 8.9 |
| Delay Adj: | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 1.001 .00 | 1.00 | 01.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 11.511 .5 | 11.5 | 10.210 .2 | 10.2 | 211.211 .2 | 211.2 | 28.9 | 8.9 | 8.9 |
| LoS by Move: | : B B | B | B B | B | B B B | B A | A | A |  |
| ApproachDel: | $: 11.5$ |  | 10.2 |  | 11.2 | 8.9 |  |  |  |
| Delay Adj: | 1.00 |  | 1.00 |  | 1.00 | 1.00 |  |  |  |
| ApprAdj Del: | 11.5 |  | 10.2 |  | 11.2 | 8.9 |  |  |  |
| LOS by Appr: | : B |  | B |  | B | 0.6 | A |  |  |
| AllWayAvge: | 0.70 .7 | 0.7 | $0.4 \quad 0.4$ | 0.4 | 0.60 .6 |  | 0.00 | . 0 | 0.0 |
| Peak Hour Volume Signal Warrant Report [Urban] |  |  |  |  |  |  |  |  |  |




[^0]:    Notes:
    AWSC = All Way Stop Control, OWSC = One-Way Stop Control, TWSC = Two-Way Stop Control,
    1 The number of attendees would increase from 1,000 to 1,500 for most football games as a result of the project.
    2 The number of attendees would increase from 2,000 to 2,200 for homecoming games a result of the project.
    3 Average delay for an signalized or AWSC intersection is reported for the entire intersection.
    Average delay for a side-street stop controlled intersection is reported for the worst stop-controlled approach.

